

REMARKS

REJECTIONS UNDER 35 U.S.C. § 112

Claims 11-15 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully submits claims 11-15 are not indefinite for at least the reasons described below.

The Examiner states that the term “based at least in part” is a relative term, which renders the claim indefinite. Applicant respectfully disagrees. Claim 11 recites, in part, “[u]pdating an optimal delay that is based at least in part on the updated probability distribution.” Claim 15 recites similar limitations. The phrase “based at least in part” makes clear that the optimal delay is updated based upon the updated probability distribution **and** that the optimal delay **may** also be updated based on other things **in addition** to the updated probability distribution, and avoids the claim limitation, “updating an optimal delay that is *based on* the updated probability distribution” being interpreted to mean the optimal delay is based **only** on the updated probability distribution.

Therefore, Applicant respectfully submits the phrase “based at least in part” does not render claims 11 and 15 indefinite. Claims 12-14 depend from claim 11. Given that dependent claims necessarily include the limitations of the claims from which they depend, Applicant submits that claims 12-14 are not indefinite.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 22, 23, 25, and 26 were rejected under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 4,817,085 issued to De Prycker (*De Prycker*). Applicant submits that claims 22, 23, 25, and 26 are not anticipated by *De Prycker* for at least the reasons described below.

Independent claim 22 recites:

a signal processor for calculating a delay experienced by each of a plurality of packets through a data network; and
a buffer system for delaying further conveyance of each of said packets according to a minimum buffer latency which is time dependant on the calculated delay and an optimal delay, the optimal delay being adapted according to a probability distribution updated in response to receipt and processing of selected ones of each of said packets.

Thus, Applicant claims a probability distribution that is updated in response to receipt and processing of selected ones of each of said packets. *De Prycker* states that a “first packet DP0 is submitted to a total delay $T2 = t_o + T_m$ and that **all the following packets ... are subjected to the same delay.**” (Emphasis added) See col. 4, lines 11-14. *De Prycker* does not teach or disclose or otherwise make obvious a probability distribution that is updated in response to receipt and processing of selected ones of each of said packets. In fact, the Office action, in a later rejection explicitly concedes, “*De Prycker* does not disclose *updating a probability distribution.*” Thus, Applicant respectfully submits *De Prycker* does not anticipate claim 22.

Claims 23, 25, and 26 depend from claim 22. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claims 23, 25, and 26 are not anticipated by *De Prycker*.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-6, 8-13, 15, and 24

Claims 1-6, 8-13, 15 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *De Prycker* in view of U.S. Patent No. 6,157,653 issued to Kline et al. (*Kline*).

Claims 1-4, 6, and 24 have been cancelled. Thus, the rejection of these claims is moot.

Applicant submits that claims 5, 8-13, and 15 are not rendered obvious by *De Prycker* in view of *Kline* for at least the reasons described below.

Independent claim 5 recites, in part, the following:

...the CPU also being arranged to calculate **an optimal delay to guarantee a predetermined probability of packet loss and provide a minimum buffer latency**, beyond which a packet will be discarded, the optimal delay being calculated based at least in part on a probability distribution that is updated upon the receipt of each packet;

Thus, Applicant claims an apparatus comprising a CPU to calculate an optimal delay to guarantee a predetermined probability of packet loss and provide a minimum buffer latency, the optimal delay being calculated based at least in part on a probability distribution that is updated upon the receipt of each packet. Independent claims 11 and 15 recite similar limitations.

The Office Action states that *De Prycker* does not disclose updating a probability distribution. Applicant agrees that *De Prycker* does not disclose updating a probability distribution. Furthermore, *De Prycker* does not teach or disclose calculating an optimal delay to **guarantee a predetermined probability of packet loss and provide a minimum buffer latency**. Therefore, claims 5, 11, and 15 are not obvious in view of *De Prycker*.

Kline is cited as teaching an apparatus and method for adaptive smoothing delay for packet voice applications, including calculating a new histogram after an Nth packet is played out. *Kline* does not teach or disclose calculating an optimal delay **to guarantee a**

predetermined probability of packet loss and provide a minimum buffer latency. Thus, *Kline* fails to cure the deficiencies of *De Prycker*. Therefore, Applicant respectfully submits claims 5, 11, and 15 are not obvious in view of *De Prycker* and *Kline*.

Claims 8-10 depend from claim 5. Claims 13 and 14 depend from claim 11. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claims 8-10 and 13-14 are not obvious in view of *De Prycker* and *Kline*.

Claim 14

Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over *De Prycker* in view of *Kline* and further in view of U.S. Patent No. 6,259,677 B1 issued to Jain (*Jain*). Applicant submits that claim 14 is not obvious in view of *De Prycker*, *Kline* and *Jain* for at least the reasons described below.

Claim 14 depends from claim 11. *De Prycker* and *Kline* fail to disclose the limitations of claim 14 for the same reasons discussed above with respect to claim 11. *Jain* fails to cure the deficiencies of *De Prycker* and *Kline*. Therefore, Applicant submits that claim 14 is not rendered obvious by *De Prycker* in view of *Kline* and further in view of *Jain*.

Claims 16-18 and 20-21

Claims 16-18, and 20-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Jain* in view of U.S. Patent Application Publication No. 2002/0191645A1 published by Lauret (*Lauret*). Applicant submits that claims 16-21 are not obvious in view of *Jain* and *Lauret* for at least the reasons described below.

Claim 16 recites a method of measuring varying delays among a plurality of packets, the method comprising:

receiving a first packet at a receiving gateway;
maintaining constant any synchronization error between a transmitting gateway and the receiving gateway by inserting a delay said packet is estimated to have experienced in traversing a network; and
setting a clock at said receiving gateway to a value equal to a time stamp contained within said first packet plus said reasonable value.

The Office Action cites *Jain* as disclosing the limitations of claim 16. The portion of *Jain* cited by the Examiner states, "The first delay, d_f , represents the minimum travel time that a packet will incur in the network as it passed from sender to receiver." Contrary to the Examiner's assertion, the cited passage of *Jain* says nothing about "synchronizing real-time traffic." Even if *Jain* did disclose "synchronizing real-time traffic," *Jain* does not teach or disclose **maintaining constant any synchronization error**, as recited in claim 16. *Lauret* is cited as disclosing setting a clock frequency at an ATM receiver based on the difference between a received clock and a local clock. See page 3, section 54, lines 1-7. Whether or not *Lauret* discloses the limitations cited in the Office action, *Lauret* does not teach or disclose maintaining constant any synchronization error, as claimed by Applicant. Thus, *Lauret* fails to cure the deficiencies of *Jain*. Therefore, Applicant submits that claim 16 is not rendered obvious by *Jain* in view of *Lauret*.

Claims 17-18 and 20-21 depend from claim 16. Given that dependent claims necessarily include the limitations of the claims from which they depend, Applicant submits that claims 17-21 are not obvious in view of *Jain* and *Lauret*.

CONCLUSION


For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 5, 8-11, 13-18, 20-23, and 25-26 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present

application. Applicants have included a copy of all claims in the attached index for the Examiner's convenience.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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